

The Claims

1.(Currently amended) A print head comprising a rotatable print array comprising a plurality of print valves, a valve control means in communication with the print array, a pulse generating means, ~~in use~~ for generating a regular sequence of pulse signals and means for rotating, in use, the print array to a predetermined rotation;

the valve control means comprising:

one or more data input lines to receive print data;

memory means comprising an array of memory locations to store the received print data, one dimension of the array of memory locations being associated with the plurality of print valves of the rotatable print array and the other dimension of the array of memory locations being associated with a plurality of pre-determined time periods; and

processing means to process the stored print data, wherein the processing means, in use,

(a) processes the print data in accordance with the predetermined rotation of the rotatable print array;

(b) divides the print data into a plurality of sub-elements, each print data sub-element being associated with a respective print valve and a respective pre-determined time period;

(c) writes each print data sub-element to the memory location associated with the respective print valve and the respective pre-determined time period;

(d) sequentially reads one or more print data sub-elements from the memory locations associated with one pre-determined time period;

(e) activates the respective print valves associated with the one or more print data sub-elements read in step (d);

characterised in that step (d) is repeated for a subsequent pre-determined time period for each pulse generated by the pulse generating means.

2. (Original) A print head according to claim 1, wherein the processing means, in use; (f) overwrites the memory locations read during step (d) after the activation of the print valves in step (e).

3. (Original) A method of printing an image with a print head comprising a rotatable print array comprising a plurality of print valves, the method comprising the steps of:

(a) rotating the print head to a predetermined rotation;

(b) generating a regular sequence of pulse signals;

(c) generating a raster signal representing the image to be printed;

(d) dividing the raster signal into a plurality of sub-elements;

(e) writing each raster signal sub-element into memory means comprising an array of memory locations to store the received print data, one dimension of the array of memory locations being associated with the plurality of print valves of the rotatable print array and the other dimension of the array of memory locations being associated with a plurality of pre-determined time periods;

(f) sequentially reading each raster signal sub-element from the memory locations associated with one pre-determined time period; and

(g) activating the respective print valves associated with each raster signal sub-element read in step (f);

characterized in that step (f) is repeated for a subsequent pre-determined time period for each pulse generated by the pulse generating means.

4. (Currently amended) A method according to claim 3 ~~any of claims 8 to 12~~, wherein the method comprises the further step of (q) over-writing the memory locations following the reading of the raster signal sub-elements.